(43) International Publication Date 19 July 2001 (19.07.2001)

PCT

(10) International Publication Number WO 01/51185 A1

(51) International Patent Classification7: 61/26, 61/28

B01D 61/24,

- (21) International Application Number: PCT/US01/01024
- (22) International Filing Date: 11 January 2001 (11.01.2001)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/175,579

11 January 2000 (11.01.2000)

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US Filed on

60/175.579 (CON) 11 January 2000 (11.01.2000)

(71) Applicant (for all designated States except US): NEPHROS, INC. [US/US]; 3960 Broadway, New York, NY 10032 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): COLLINS, Gregory, R. [US/US]; 113 Second Avenue, Monroe, NY 07656 (US). SUMMERTON, James [US/US]; 125B South Maple Avenue, Park Ridge, NJ 07656 (US). SPENCE, Edward [US/US]; 4421 Edson Avenue, Bronx, NY 10466 (US).

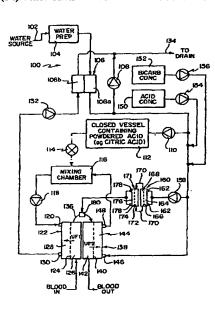
- (74) Agents: ELLIS, Edward, J. et al.; Darby & Darby P.C., 805 Third Avenue, New York, NY 10022-7513 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: THERMALLY ENHANCED DIALYSIS/DIAFILTRATION SYSTEM



(57) Abstract: The present invention provides a hemodialysis or hemodiafiltration system and method using two dialyzer stages (122, 138), wherein the temperature of a dialysate fluid stream of the first cartridge (122) is increased such that the blood in the first cartridge (122) is dialyzed or diafiltered at an elevated temperature, while blood in the second cartridge (138) is dialyzed or diafiltered against a dialysate stream at normal blood temperature. This results in an increased solute diffusivity and a corresponding increase in removal of blood substances by diffusion. When diafiltration is performed, an additional removal of substances occurs by convection as a larger portion of plasma water from a blood compartment (142) can be filtered across a semi-permeable membrane (140) at the same transmembrane pressure due to the reduced viscosity of the heated blood and plasma water.

3 ļī, Ši,

WO 01/51185